



Instruction Manual

WCM-D

Rako Wired Switch Interface



2024

Version 2.2.2



For programming information: [“Wired programming guide”](#)

For further installation information: [“Wired Application Sheet”](#)

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What is the WCM-D?

The WCM-D allows custom and third-party switch plates to be used in place of a Rako wired keypad (WCM/WK-EOS/WK-MOD etc.)

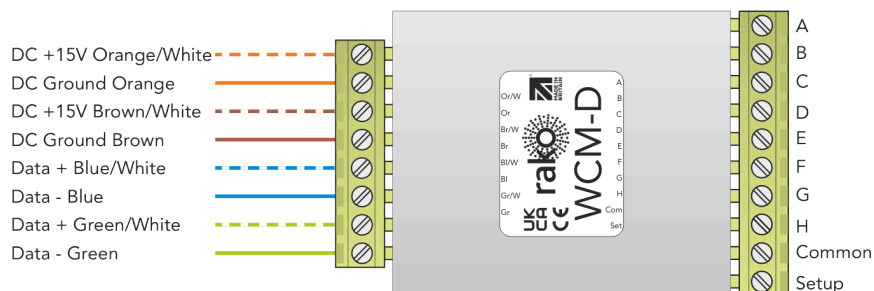
The WCM-D will fit inside a single gang UK back box. Up to eight switch inputs can be taken per WCM-D. The switch plate can be formed of latching or momentary action switches connected by short wires to terminals on the WCM-D.

NB

Excessive cable lengths can pick up noise, which can cause intermittent operation or spurious triggering, the recommended maximum cable length is 300mm.



Wiring Switches to the WCM-D



The WCM-D is wired into two pluggable sets of terminals. The 8-way terminal block connects to the Rako wired network formed of Cat5/Cat6 cable with cable allocations as set out above. The ten-way terminal block is used to wire between one and eight 3rd party

switch panels into the WCM-D. Inputs "A-H" are shorted to common to output commands from the WCM-D.

Terminating the WCM-D

No Term (Unterminated)



Used when the WCM-D is not at the end of line (with or without a RAK-STAR). This is usually identifiable by two cables being connected to the WCM-D.

End of line termination



When the WCM-D is in the end of line position and not connected to a RAK-STAR a 120 Ohm resistor termination is required. This is provided with the WCM-D. The resistor is placed between the Blue and the Blue/White inputs.

Star termination



When used in conjunction with a RAK-STAR a STAR termination is required at the end of line of each leg. WCM-Ds with two sets of cables should always be "Unterm."

It should be wired as shown (the green pair is connected to the blue terminals together with the blue pair).

See the RAK-LINK and RAK-STAR user manuals for further information on when to use each termination.

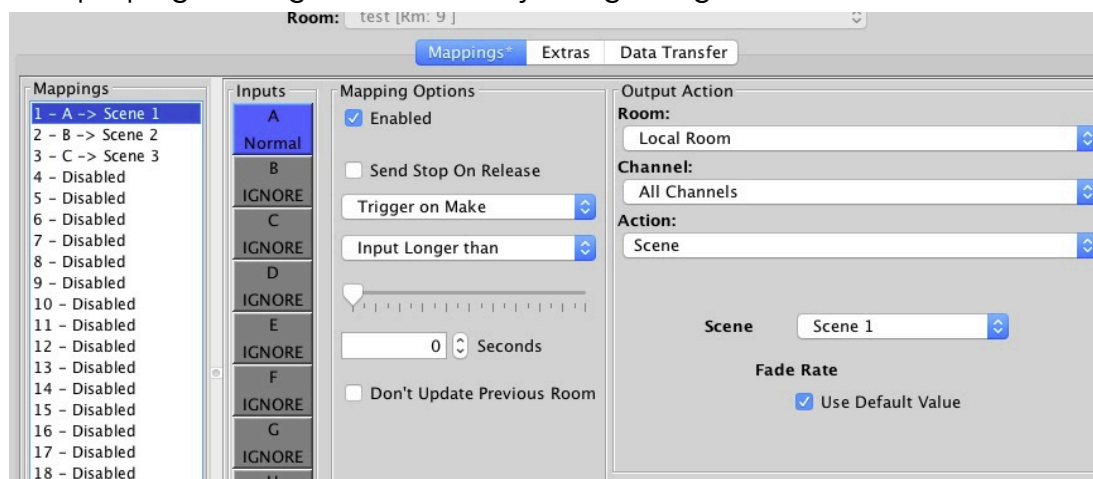
Setting up the WCM-D

The setup instructions below are for units shipped after 2022, for setup instructions for units shipped before 2022, see [Appendix 1](#).

- First, open Rasoft Pro and ensure a WK-HUB or WA/WTC-Bridge is successfully connected (see wired programming guide for details).
- Short between the "setup" and "common" input for 3 or 4 seconds (when the WCM-D successfully enters set-up mode, the LED will begin to blink).
- If the installation is correct, a pop up box will appear in Rasoft Pro. If no pop up box appears, there is most likely an error in the wiring of the Rako Wired Network.
- Enter a suitable name and assign the local room.

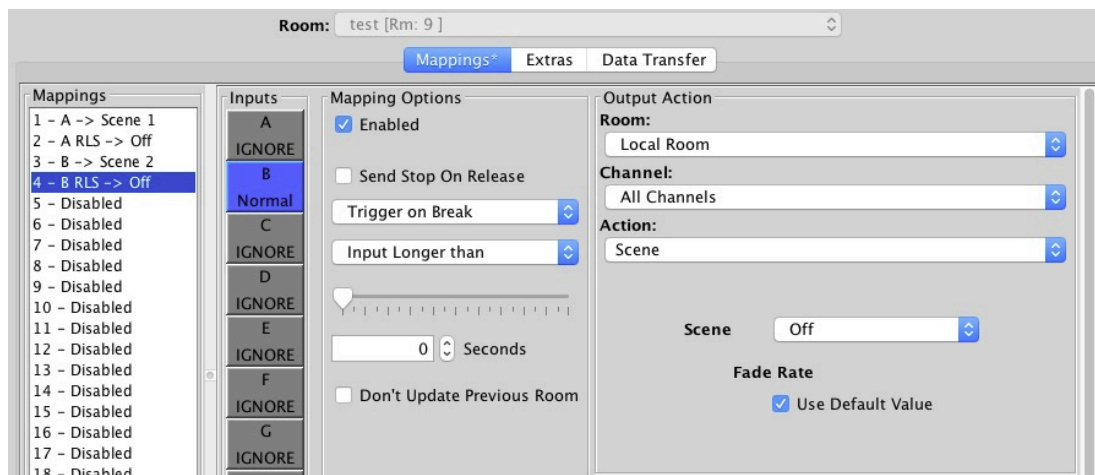
Programming the WCM-D inputs

Example programming for a momentary wiring configuration:



Above is an example of how a three way momentary switch would be programmed when wired into inputs A, B, and C of a WCM-D.

Example programming for a latching wiring configuration:



Above is an example of how a two-way latching switch would be programmed when wired into inputs A and B of a WCM-D.

Thank you for choosing Rako Controls; we hope that you are pleased with your system. Should you require further assistance, please contact us via our website, www.rakocontrols.com, or by calling our customer support helpline on 01634 226666.



Appendix 1 - Hardware changes

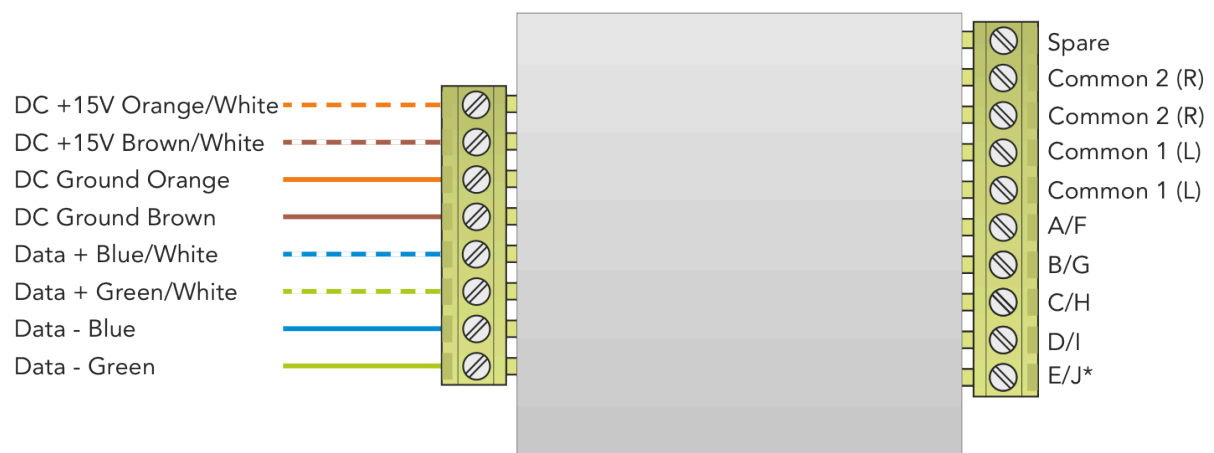
WCMs shipped before 2022 have a different wiring diagram, as shown below. This should also be identifiable from the label attached to the WCM-D itself.

Please ensure that the correct wiring configuration is used; incorrect connections on the wired network side of the WCM-D may cause the Rako wired network as a whole to become offline.

NB

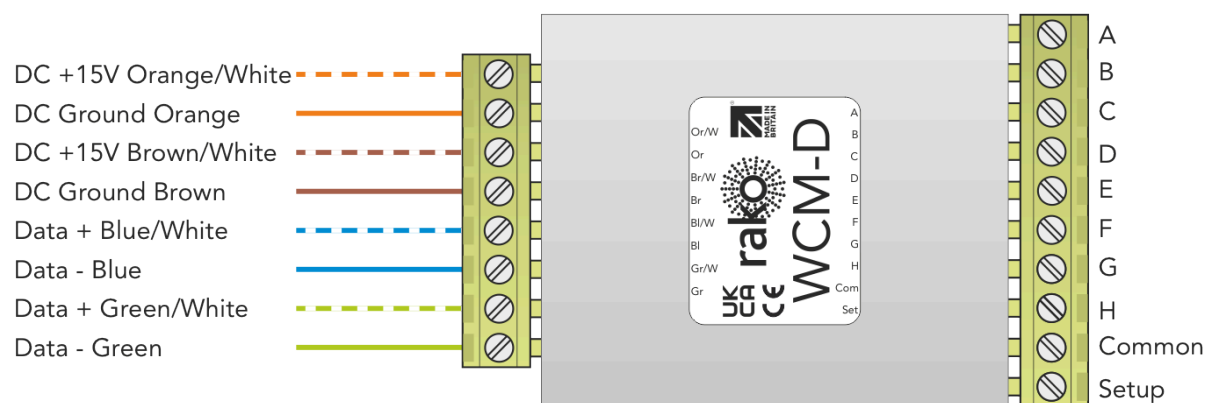
The "Old" WCM-D switch outputs require inputs J* and Common 2 to put the unit into setup mode.

"Old" WCM-D wiring (RTL1067):



As shown, "Old" WCM-D has no label.

"New" WCM-D wiring (RTL1139):



As shown, "New" WCM-D with label.

Appendix 2 - Switch wiring examples

Retractive or latching switches can be used with the WCM-D, centre retractive switches require two inputs.

NB

Cables must not exceed 300mm; doing so will cause spurious triggering.

